

REMARKS

Claim 1 is objected to. Claims 1 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Gaikema et al. (USPN 4689936). Claims 2, 3, and 10-13 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Gaikema et al. (USPN 4689936). Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gaikema et al. (USPN 4689936). Claims 5, 6, 14, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gaikema et al. (USPN 4689936) as applied to claims 1 and 10 above, and further in view of Muller et al. (USPN 4404241). Claims 7 and 18 are rejected as being unpatentable over Gaikema et al. (USPN 4689936) as applied to claims 1 and 10 above, and further in view of Lesser et al. (USPN 5012061).

1. Claim Objection of claim 1

Claim 1 is objected to because of the following informalities: in line 11 of claim 1, delete "decreasesits" and insert -decreases its--. Appropriate correction is required.

25 Response:

Claim 1 is amended and the word "decreasesits" is removed. Reconsideration of the amended claim 1 is hereby requested.

30 2. Rejection over claims 1 and 4 under 35 U.S.C 102 (b) :

Claims 1 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Gaikema et al. (USPN 4689936)

substantially as set forth in Paper No. 3 to 4, paragraph 5.

Response:

5 Claim 1 is amended by particularly pointing out the feature of the present invention, which has been discussed with the Examiner in the telephone interview dated 02/19/2003. The newly added portions in the amended claim 1 are clearly shown in Fig.2A-2C and
10 disclosed in the amended specification on page 9, the first paragraph of the present application. No new matter is introduced.

To show the major differences/non-obviousness, the
15 amended claim 1 is repeated below:

"1. (Third amended) A composite film comprising:
a polymer composite layer having two sides with a plurality of tiny gaps, each of the gaps
20 comprising two edges approximately in contact with each other to form an approximately closed gap when a pressure difference between the two sides of the composite film is approximately zero;
and
25 a nonstick sealing layer attached to one side of the polymer composite layer to seal the gaps and make the gaps become air impermeable when the pressure difference is approximately zero;
wherein when the pressure difference between the
30 two sides of the composite film increases, each of the gaps are enlarged by the air pressure exerted on one side of the composite film and become air permeable,

and restore again while the pressure difference is removed."

5 In the present invention, the composite film comprises a main substrate with a plurality of tiny gaps formed by an impression process. Each of the gaps comprises two edges which approximately contact with each other to form an approximately closed gap due to the elasticity of the polymer composite layer when a
10 pressure difference between the two sides of the composite film is approximately zero.

In addition, the optional nonstick sealing layer can be attached to one side of the polymer composite
15 layer to seal the gaps and make the gaps become air impermeable when the pressure difference is approximately zero. Therefore, when the pressure difference between the two sides of the composite film increases, each of the gaps are enlarged by the air
20 pressure exerted on one side of the composite film and become air permeable, and restore again while the pressure difference is removed.

As said in the specification and the previous office
25 action, it is important that the gap size or the distance between the two edges of each gap is approximately zero initially and varied according to differential pressure applied on the composite film for controlling the permeability through the composite film.

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Regarding Gaikema's invention, a package or a container for heat treatment is disclosed. The package

basically comprises a cover 3 with an opening 5 and a hot melt means 7 positioned on the opening though various embodiments are disclosed in Gaikema's invention. The Applicant wants to point out that the permeability control of the package is dependent on the hot melt means 7 positioned on the opening 5. **The opening 5 on the cover 3 is always open and the edges thereof do not contact with each other** no matter how the pressure or the temperature is changed. It is obviously different from the present invention in which the two edges of each gaps contact with each other due to the elasticity of the polymer composite layer when a pressure difference between the two sides of the composite film is approximately zero.

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Furthermore, it is obvious that the self-venting function of the package in Gaikema's disclosure can only work in a certain temperature range in which the hot melt means 7 is heated to a liquid phase. In other words, the self-venting function fails while the temperature is not high enough to make the hot melt means 7 become a liquid phase. It happens easily while the pressure inside the package raises more quickly than the temperature does. In comparison with the present invention, the composite film in the present invention shows a great advantage that the gap size thereon is varied automatically to meet a force balance between the applied pressure difference and the elasticity of the polymer composite layer so that the self-venting function of the composite film in the present can always work successfully without the temperature concern.

Additionally, in comparison with the Gaikema's invention which uses the liquid hot melt material to control the permeability of the package, the permeability of the composite film in the present invention is controlled by the gap size of the polymer composite layer, which is a solid. Thus, some problem of losing the restore ability may happen in the prior art reference if the temperature is changed rapidly since the binding force among the liquid molecules is much weaker than that among the solid molecules obviously. For example, when the temperature raises significantly in a very short time, the liquid hot melt means 7 may be injected far away from the opening 5 and the resealing property is therefore deteriorated. The problem also happens if the liquid hot melt means 7 does not have enough time to flow back to the original position while the package is cooled down rapidly.

From the aforementioned reasons, the Applicant believes that the amended claim 1 of the present application shows difference/non-obviousness since there is a major difference between the present application and the prior art references. Reconsideration of the amended claim 1 is politely requested.

Claim 4 is dependent on the amended claim 1 and should be allowed if the amended claim 1 is allowed. Reconsideration of claim 4 is hereby requested.

3. Rejection over claims 2, 3 and 10-13 under 35 U.S.C

102(b) or 103(a) :

Claims 2, 3, and 10-13 are rejected under 35 U.S.C 102(b) as anticipated by or, in the alternative, under 35 U.S.C 103(a) as obvious over Gaikema et al. (USPN 4689936) substantially as set forth in Paper No.4 to 5, paragraph 7.

Response:

Claim 10 is amended by particularly pointing out the feature of the present invention, which has been discussed with the Examiner in the telephone interview dated 02/19/2003. The newly added portions in the amended claim 10 is disclosed in the amended specification on page 9, the first paragraph of the present application and clearly shown in Fig.2A-2C. No new matter is introduced.

To show the major differences/non-obviousness, the amended claim 10 is repeated below:

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"10. (Third amended) A composite film comprising a first layer, and a second layer laminated on the first layer, the composite film comprising a top face on the first layer and a bottom face on the second layer, the composite film being processed by virtue of an impression process, thereby forming a plurality of tiny gaps, each of the gaps comprising two edges approximately in contact with each other to form an approximately closed gap when a pressure difference between the two sides of the composite film is approximately zero wherein when the pressure difference between the two sides of the composite film increases,

each of the gaps are enlarged by the air pressure exerted on one side of the composite film and become air permeable, and restore again while the pressure difference is removed."

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As aforementioned, the Applicant believes that the independent claim 10 of the present application shows difference from the Gaikema's invention since the feature of the behavior of the edges is never taught or disclosed in the Gaikema's disclosure. Claims 2, 3, and 11-13 are dependent on the amended claims 1 and 10 and should be allowed if the amended claims 1 and 10 are allowed. Reconsideration of claims 2, 3, and 11-13 is hereby requested.

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4. Rejection over claim 9 under 35 U.S.C 103(a) :

Claim 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gaikema et al. (USPN 4689936) substantially as set forth in Paper No.6, paragraph 8.

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Response:

Claim 9 is dependent on the amended claim 1 and should be allowed if the amended claim 1 is allowed. Reconsideration of claim 9 is hereby requested.

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5. Rejection over claims 5, 6, 14, 16 and 17 under 35 U.S.C 103(a) :

Claims 5, 6, 14, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gaikema et al. (USPN 4689936) as applied to claims 1 and 10 above, and further in view of Mueller et al. (USPN 4404241)

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as before

substantially as set forth in Paper No.6, paragraph 9.

Response:

5 Regarding the Mueller's invention, only a microwave
package with vent is disclosed. Similar to the Gaikema's
disclosure, Mueller does not teach or disclose the edge
behavior in the present invention. As a result, the
Applicant believes that the independent claims 1 and
10 of the present application show difference and
non-obviousness from the combination of the Mueller's
invention and the Gaikema's invention. Claims 5, 6,
14, 16 and 17 are dependent on the amended claims 1
and 10 and should be allowed if the amended claims 1
and 10 are allowed. Reconsideration of claims 5, 6,
14, 16 and 17 is hereby requested.

as before

6. Rejection over claims 7 and 18 under 35 U.S.C 103(a) :

Claims 8 and 15 are rejected under 35 U.S.C 103(a)
20 as being unpatentable over Gaikema et al. as applied
to claims 1 and 10 above, and further in view of Lesser
(USPN 5012061) substantially as set forth in Paper No.7,
paragraph 10.

25 **Response:**

Regarding the Lesser's disclosure, only a vapor
releasing cover is disclosed. The Applicant believes
that the independent claims 1 and 10 of the present
application show difference and non-obviousness from
30 the combination of the Lesser's invention and the
Gaikema's invention. Claims 7 and 18 are dependent on
the amended claims 1 and 10 and should be allowed if

the amended claims 1 and 10 are allowed. Reconsideration of claims 7 and 18 is hereby requested.

7. Rejection over claims 8 and 15 under 35 U.S.C 103(a) :

5 Claims 8 and 15 are rejected under 35 U.S.C 103(a) as being unpatentable over Gaikema et al. as applied to claims 1 and 10 above, and further in view of Inoue substantially as set forth in Paper No.8, paragraph 11.

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Response:

 Claims 8 and 15 are dependent on the amended claims 1 and 10 and should be allowed if the amended claims 1 and 10 are allowed. Reconsideration of claims 8 and 15 is hereby requested.

8. Introduction of the amended specification on page 9, first paragraph:

20 The specification on page 9, first paragraph is amended to detail the description of the edge of each gap in the composite film. The edges are clearly shown in Fig.2A-2C, 3 and 4. The behavior of the edges can be easily found in the original specification on page 8-10 since the behavior of the gaps is fully described.

25 No new matter is introduced.

VERSION WITH MARKINGS TO SHOW CHANGES MADE**In the specification:**

On page 9, the first paragraph,

5 Please refer to Fig.2A to Fig.2C. Fig.2A to Fig.2C are cross-sectional diagrams of air permeable structures 102 after performing an impression process according to the present invention. These figures are in respective combination with Figs.1A to Fig.1C. The
10 structures 100 in Fig.1A to Fig.1C are partially or totally perforated by virtue of an impression process in a direction from the top face 12 to the bottom face 14, which forms a plurality of tiny gaps 15 on the structures 102 in Fig.2A to Fig.2C. After the impression
15 process, the structures 100 in Figs.1A to 1C are permanently damaged, forming the structures 102 in Figs.2A to 2C, respectively. As shown in Fig.2A to Fig.2C, each of the gaps 15 comprises two edges approximately in contact with each other to form an approximately
20 closed gap 15 when a pressure difference between the two sides of the structure 102 is approximately zero. At that time, [When the structure 102 is in a static state, and without any external stress applied to it,]
the gaps 15 are approximately closed (pseudo-closed)
25 and the surface of the structure 102 has a pseudo-planar topography with multiple phases. When the structure 102 swells due to external pressure, the gaps 15 enlarge and become air permeable, and restore again when the
external pressure is removed.

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In the claims:

1. (Twice amended) A composite film comprising:

5 a polymer composite layer having two sides with a
plurality of tiny gaps, each of the gaps
comprising two edges approximately in contact
with each other to form an approximately closed
gap when a pressure difference between the two
sides of the composite film is approximately zero
[which are pseudo-closed for air permeation
initially, the size of the tiny gaps being varied
according to a pressure difference between the
10 two sides of the polymer composite layer]; and
a nonstick sealing layer attached to one side of
the polymer composite layer to seal the gaps and
make the gaps become air impermeable when the
pressure difference is approximately zero [for
15 filling the gaps to prevent air permeation];
wherein [the sealing layer gradually decreases its
sealing ability when heated by hot air but gradually
reseals the gaps again when cooled] when the pressure
difference between the two sides of the composite film
20 increases, each of the gaps are enlarged by the air
pressure exerted on one side of the composite film and
become air permeable, and restore again while the
pressure difference is removed.

25 10. (Twice amended) A composite film comprising a first
layer, and a second layer laminated on the first layer,
the composite film comprising a top face on the first
layer and a bottom face on the second layer, the composite
film being [perforated] processed by virtue of an
30 impression process, thereby forming a plurality of tiny
gaps, each of the gaps comprising two edges
approximately in contact with each other to form an

approximately closed gap when a pressure difference
between the two sides of the composite film is
approximately zero wherein when the pressure difference
between the two sides of the composite film increases,
5 each of the gaps are enlarged by the air pressure exerted
on one side of the composite film and become air permeable,
and restore again while the pressure difference is
removed [in the composite film which are pseudo-closed
for air permeation initially, the size of the tiny gaps
10 enlarging gradually when an external pressure is
applied on the composite film and shrinking again when
the external pressure is removed].

Claim 44 is cancelled.

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Sincerely yours,

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